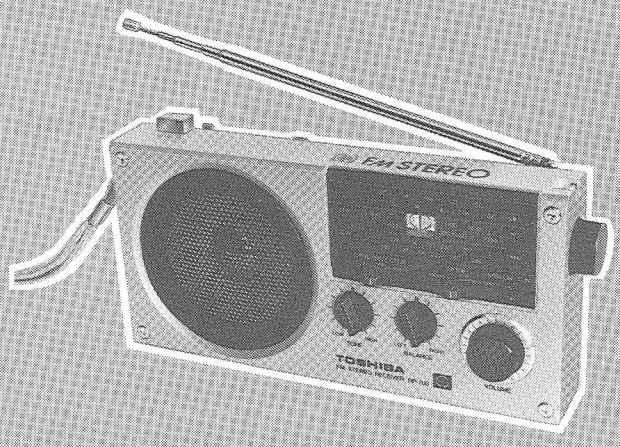
TOSHIBA

FM STEREO RECEIVER

RP-700F



SPECIFICATIONS

Frequency range:	FM 88 – 108 MHz AM 525 – 1605 kHz	Jacks:	Mini jack; Stereo headphone (32 ohms)/Earphone (8 ohms) External power jack; DC 6V positive center pin
Power requirement:	DC 6V "AA" cell x 4 pcs. or AC adaptor with a positive center pin (⊖—◉—⊕)	Dimensions (W x H x D):	167 x 82 x 34 (mm)
Speaker:	Approx. 66mm dia. 4 ohms center tap.	Weight:	400 g (Include battery)
Power output:	1500mW (max.) with built-in speaker		

Specifications are subject to change without notice.

TA, TC

1. OPERATING CONTROLS

Rod Antenna:
For FM fully extend and adjust the angle.
* When using the headphone, the cord serves as FM antenna.

POWER ON/OFF:
Power push switch.

Hook

Strap

BAND:
Band select switch.

MODE MONO/STEREO:
Mode select switch.
* When listening to a stereo broadcast using the stereo headphone, set the switch to "STEREO".

Tuning knob

AM Tuning and FM stereo indicator.

TONE:
Tone control.

BALANCE:
When using the headphone, this will control the right and left channel volumes.
* When the headphone is not used, set the knob to "▮▮".

VOLUME:
Volume control.

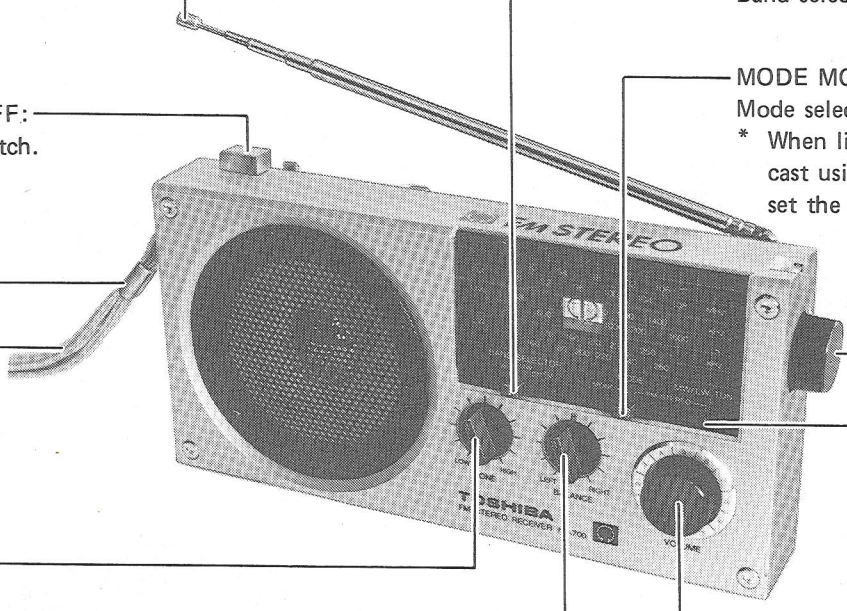


Figure 1.

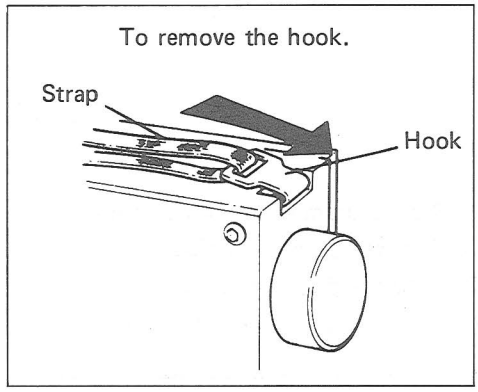
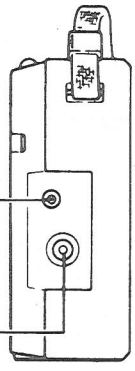


Figure 3.



🎧: Stereo headphone:
(32 ohms mini plug)/Earphones (8 ohms).

DC IN 6V:
External power jack.
Use an AC adaptor DC 6V with a positive centre pin.

Figure 2.

2. DISASSEMBLY INSTRUCTIONS

FRONT PANEL REMOVAL

1. Remove 4 Knobs (A) (Tuning, Volume Balance and Tone).
2. Remove 3 screws (B) and (C) in the back cabinet.
3. Separate the front panel from the back cabinet.

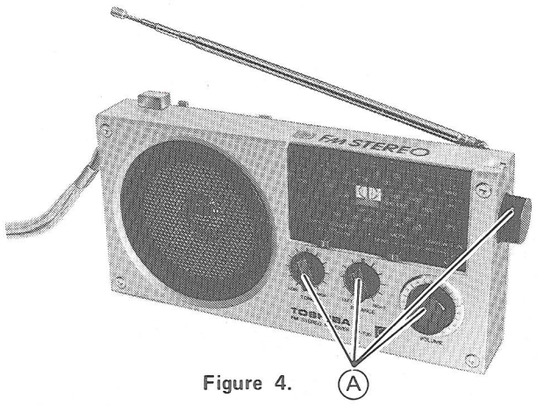


Figure 4.

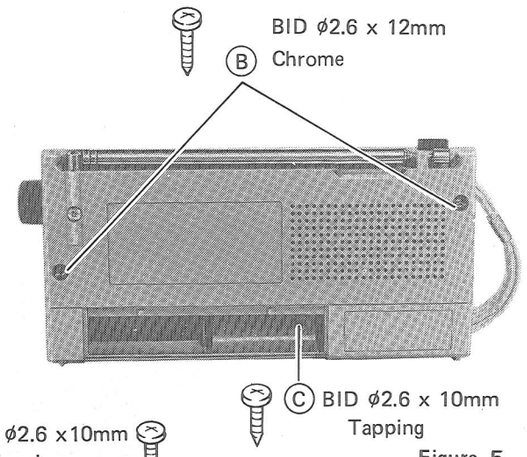


Figure 5.

P.C. BOARD REMOVAL

1. Remove 1 screw (C).
2. Pull up the right of P.C. Board and slide it to the right to take out the P.C. Board.

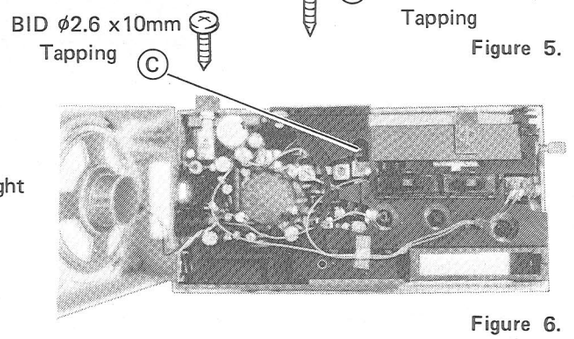


Figure 6.

3. DIAL CORD RESTRINGING

1. Set the drum on the variable capacitor with a screw.
2. Turn the drum fully clockwise.
3. Wind the dial cord in numerical order.
4. Hook the spring on the drum.

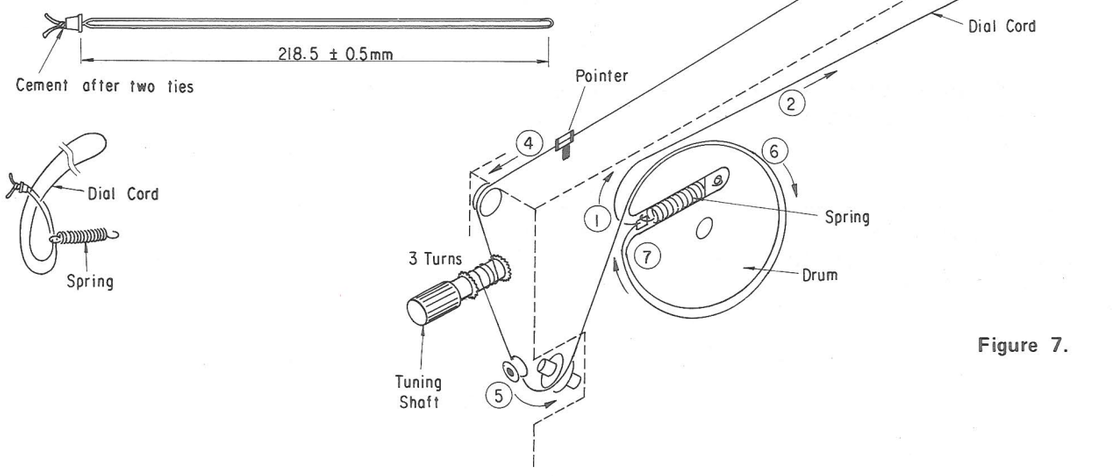


Figure 7.

4. ALIGNMENT INSTRUCTIONS

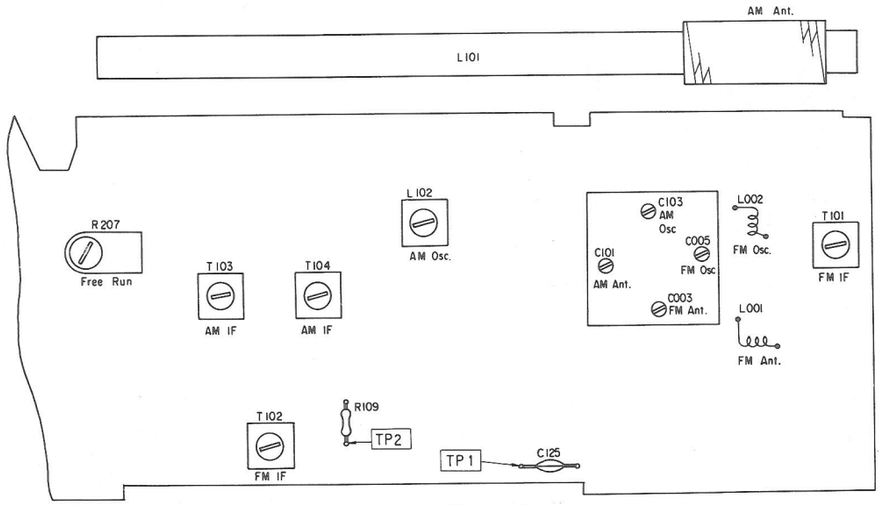


Figure 8.

Note:
Remove the dial back sheet before adjustment and affix it again after adjustment.

TEST EQUIPMENT

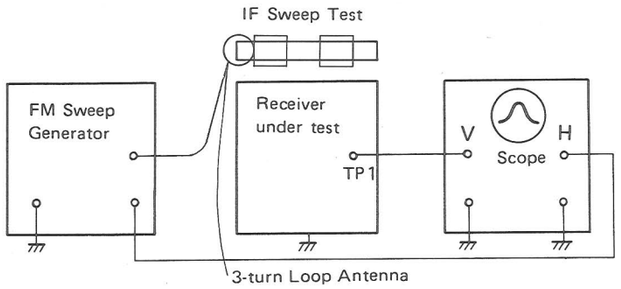
1. Signal generator with a frequency range of at least from 515 kHz to 1650 kHz AM.
2. Oscilloscope with a wide range amplifier of approximately 100 kHz.
3. Test loop – a coil of any size wire, one turn or more. (AM)
4. VTVM

AM ALIGNMENT

1. Turn on the AM signal generator and the VTVM allowing a fifteen-minute warm-up period.
2. Using the test loop across the output of the signal generator, inductively connect the signal generator to the radio.
3. Connect the VTVM across the voice coil or a 4 ohm dummy load.
4. Set signal generator frequency as listed in ALIGNMENT CHART and maintain a sufficient output level to provide an indication on VTVM.
5. Set volume control at mid-position.
6. Proceed as outlined in the IF and AM ALIGNMENT CHARTS.

AM ALIGNMENT CHART

Band	Step	Signal Generator Frequency	Radio Dial Setting	Adjustment	Remarks
IF	1	455 kHz	Tuning Gang Fully Counter-clockwise (Lowest Frequency)	T103 T104	Adjust for maximum indication.
AM	2	520 kHz	Tuning Gang Fully Counter-clockwise (Lowest Frequency)	OSC. coil L102 (AM)	Adjust for maximum indication.
	3	1650 kHz	Tuning Gang Fully clockwise (Highest Frequency)	OSC. Trim C103	Adjust for maximum indication.
	4	Repeat steps 2 and 3 as required.			
	5	600 kHz	Tune to Signal.	Ant. Coil L101 (AM)	Adjust for maximum indication.
	6	1400 kHz	Tune to Signal.	Ant. Trim C101	Adjust for maximum indication.
	7	Repeat steps 5 and 6 as required.			



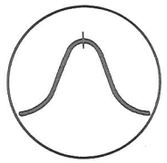


Figure 9.

FM-IF ALIGNMENT

1. Set the select switch to FM position.
2. Turn on both sweep generator and oscilloscope, and allow a fifteen-minute warm-up period.
3. Connect the RF SWEEP SIGNAL OUTPUT from the signal generator through the loop antenna to the receiver.
4. Connect the oscilloscope vertical input directly to the test point TP-2 and connect the shielded lead to the test point E or chassis ground.
5. Connect the SWEEP VOLTAGE OUTPUT of the sweep generator to the oscilloscope.
6. Proceed as outlined in the FM-IF ALIGNMENT CHART.

FM-IF ALIGNMENT CHART

Step	Signal coupling	Equip.	Tuning	Connection	Adjust. point	Pattern
1	Connect sweep generator output to a three-turn loop antenna of 10cm diameter.	Sweep generator of 10.7 MHz center freq. with 10.7 MHz marker.	Tuning Knob fully counter-clockwise (Lowest Frequency.)	Set scope for connecting output signal from TP-2 to vertical axis of scope "V" and sweep generator output to horizontal axis "H".	T101 T102	Turn the coil T102 fully counterclockwise to obtain a single peak. Adjust coil T101 in order until the best single peak is obtained. Figure 10 Finally turn the coil T102 to obtain S curve.

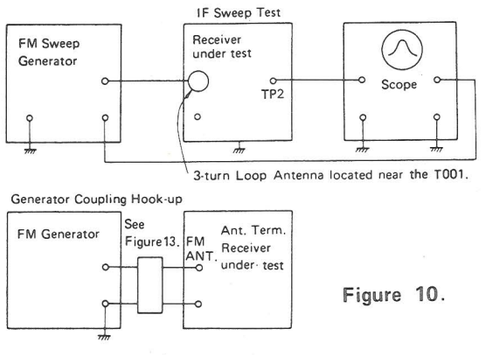


Figure 10.

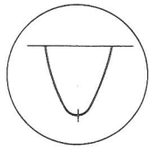


Figure 11.

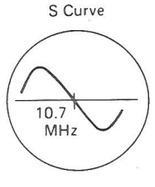


Figure 12.

FM-RF ALIGNMENT

1. Turn on the signal generator and the VTVM, and allow a fifteen-minute warm-up period.
2. Connect the signal generator output through a 75 ohm dummy antenna across FM ANT.
3. Connect the VTVM across the voice coil or a 4 ohm dummy load.
4. Set the volume control to mid-position.
5. Adjust the signal generator frequency as indicated in FM-RF ALIGNMENT CHART, and maintain a sufficient signal output level to provide a measurable indication.
6. Proceed as outlined in the FM-RF ALIGNMENT CHART.

FM-RF ALIGNMENT CHART

Step	Signal Generator	Radio Dial Setting	Adjustment	Remarks
1	87.5 MHz	Tuning Knob fully Counterclockwise (Lowest Frequency)	OSC. Coil L003	Adjust for maximum output indication
2	108 MHz	Tuning Knob fully Clockwise (Highest Frequency)	OSC. Trim. TC1	Adjust for maximum output indication
3	Repeat steps 1 and 2 as required.			
4	90 MHz	Tune to signal	Ant. Coil L001	Adjust for maximum output indication
5	106 MHz		Ant. Trim. TC2	
6	Repeat steps 4 and 5 as required.			

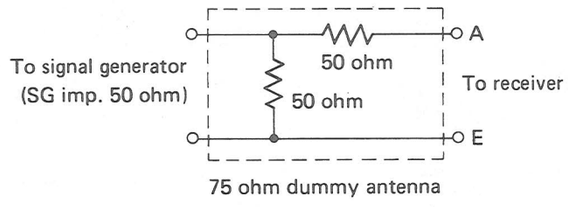


Figure 13.

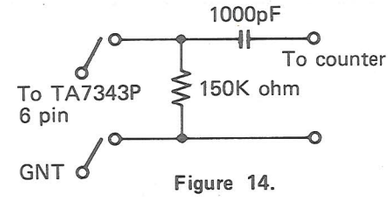
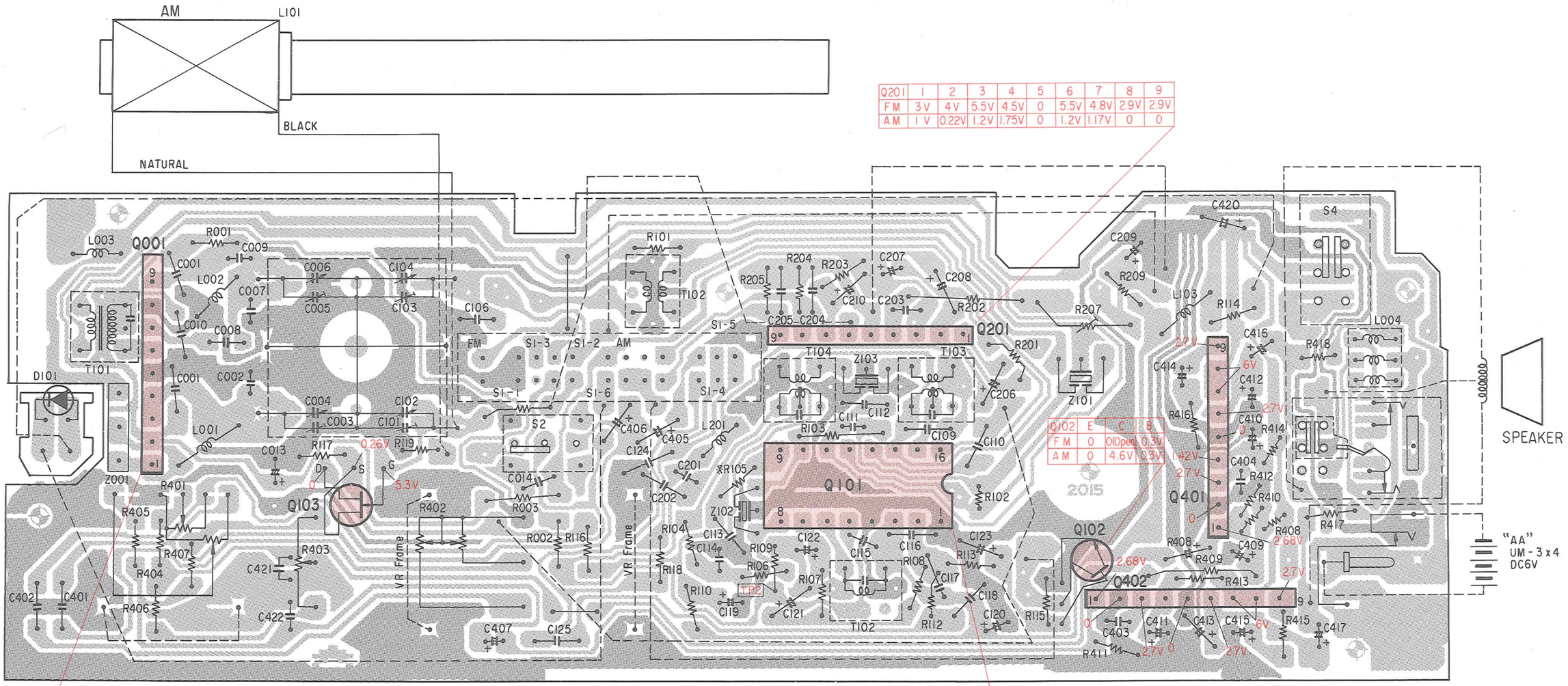


Figure 14.

FREE RUN FREQUENCY ALIGNMENT

Adjust VR207 under no signal condition so as to obtain 38 kHz ± 75 Hz.

5. ELECTRICAL PARTS LOCATIONS



Q201	1	2	3	4	5	6	7	8	9
FM	3V	4V	5.5V	4.5V	0	5.5V	4.8V	2.9V	2.9V
AM	1V	0.22V	1.2V	1.75V	0	1.2V	1.17V	0	0

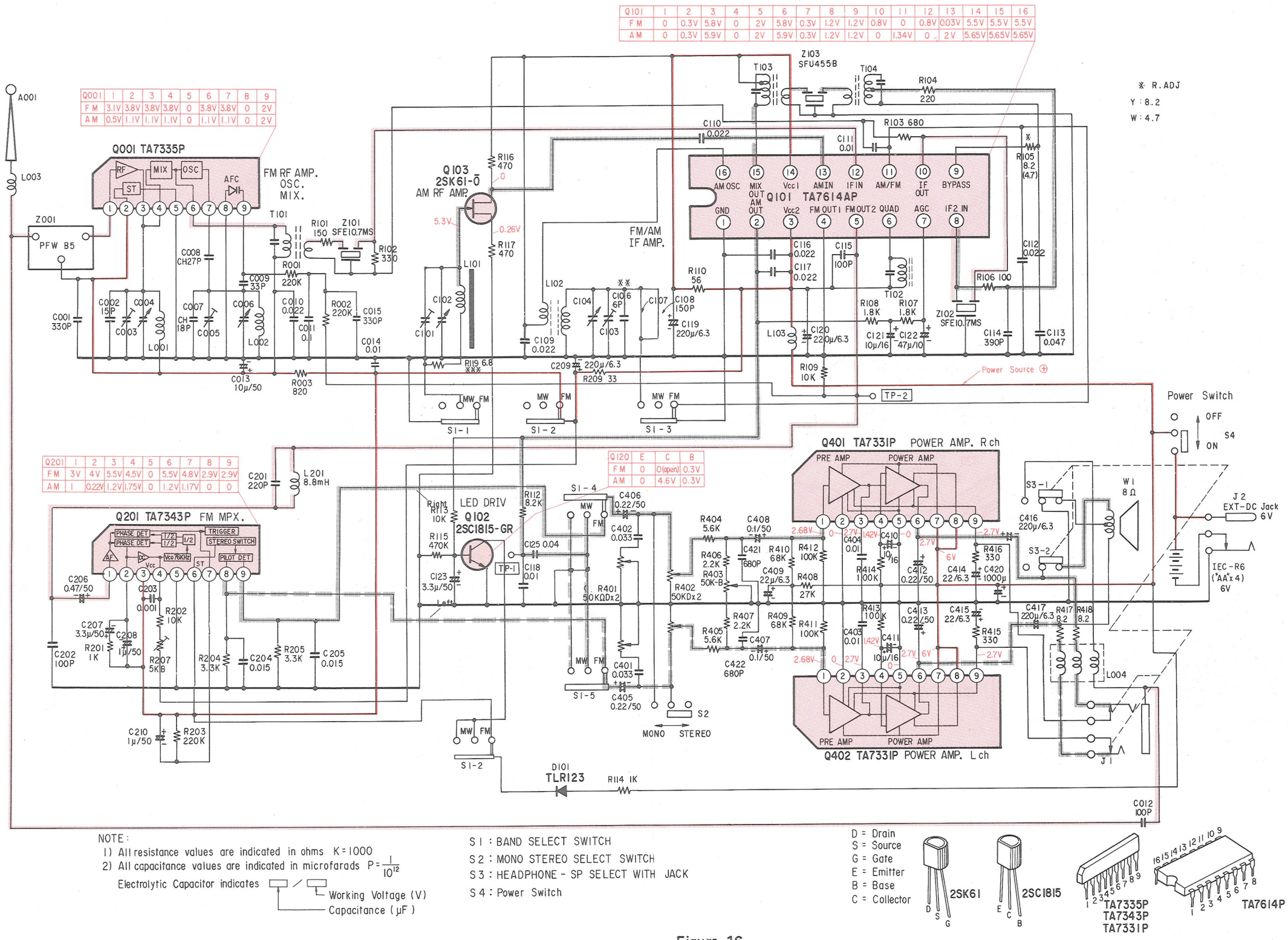
Q102	E	C	B
FM	0	0(Open)	0.3V
AM	0	4.6V	0.3V

Q001	1	2	3	4	5	6	7	8	9
FM	3.1V	3.8V	3.8V	3.8V	0	3.8V	3.8V	0	2V
AM	0.5V	1.1V	1.1V	1.1V	0	1.1V	1.1V	0	2V

Q101	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
FM	0	0.3V	5.8V	0	2V	5.8V	0.3V	1.2V	1.2V	0.8V	0	0.8V	0.03V	5.5V	5.5V	5.5V
AM	0	0.3V	5.9V	0	2V	5.9V	0.3V	1.2V	1.2V	0	1.34V	0	2V	5.65V	5.65V	5.65V

Figure 15.

6. SCHEMATIC DIAGRAM



Q001	1	2	3	4	5	6	7	8	9
FM	3.1V	3.8V	3.8V	3.8V	0	3.8V	3.8V	0	2V
AM	0.5V	1.1V	1.1V	1.1V	0	1.1V	1.1V	0	2V

Q101	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
FM	0	0.3V	5.8V	0	2V	5.8V	0.3V	1.2V	1.2V	0.8V	0	0.8V	0.03V	5.5V	5.5V	5.5V
AM	0	0.3V	5.9V	0	2V	5.9V	0.3V	1.2V	1.2V	0	1.34V	0	2V	5.65V	5.65V	5.65V

Q201	1	2	3	4	5	6	7	8	9
FM	3V	4V	5.5V	4.5V	0	5.5V	4.8V	2.9V	2.9V
AM	1	0.22V	1.2V	1.75V	0	1.2V	1.17V	0	0

Q120	E	C	B
FM	0	0(open)	0.3V
AM	0	4.6V	0.3V

NOTE :
1) All resistance values are indicated in ohms K=1000
2) All capacitance values are indicated in microfarads $P=\frac{1}{10^{12}}$

Electrolytic Capacitor indicates — Working Voltage (V) / Capacitance (μF)

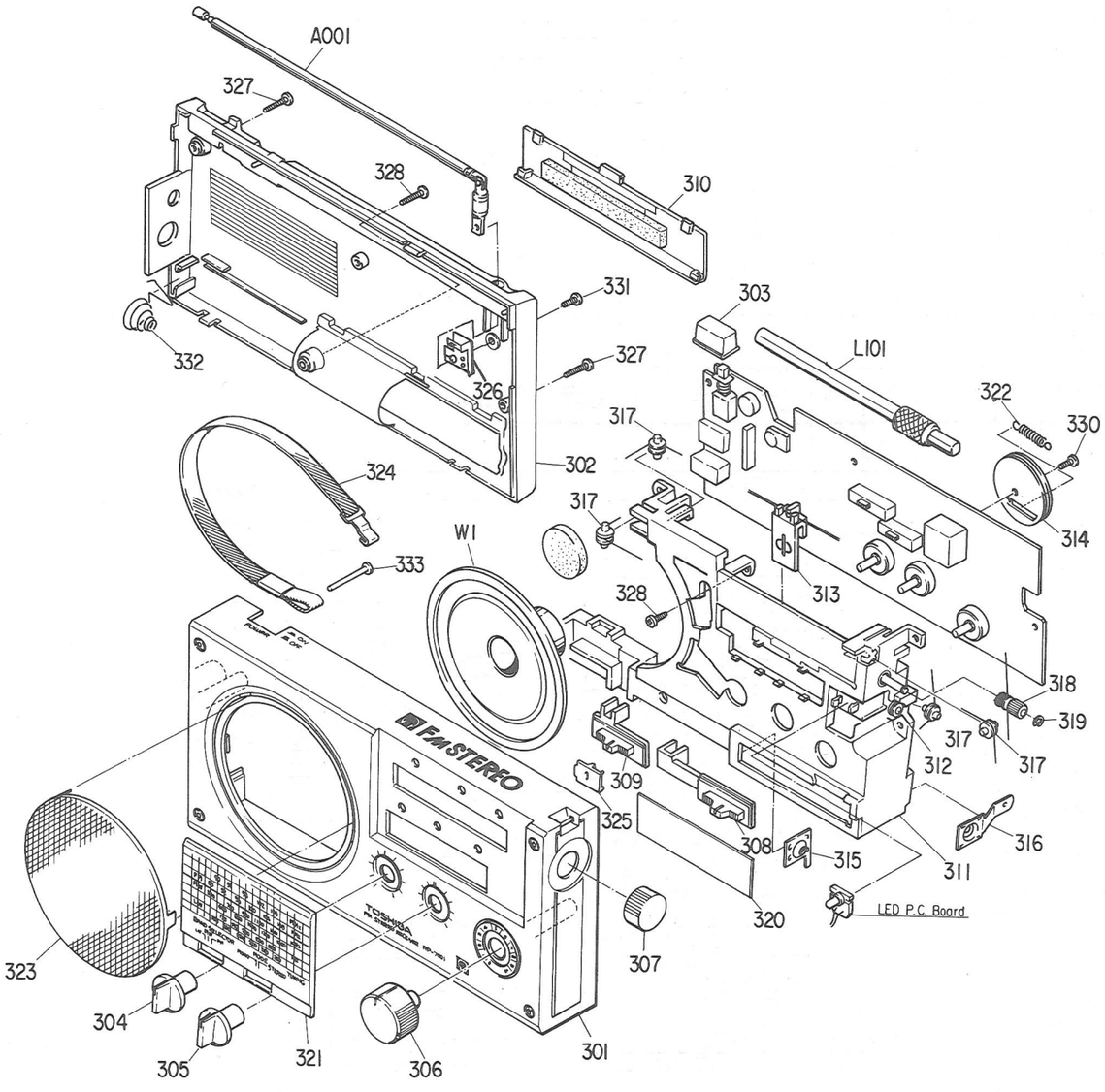
S1 : BAND SELECT SWITCH
S2 : MONO STEREO SELECT SWITCH
S3 : HEADPHONE - SP SELECT WITH JACK
S4 : Power Switch

D = Drain
S = Source
G = Gate
E = Emitter
B = Base
C = Collector

2SK61 2SC1815 TA7335P TA7343P TA7331P TA7614P

Figure 16.

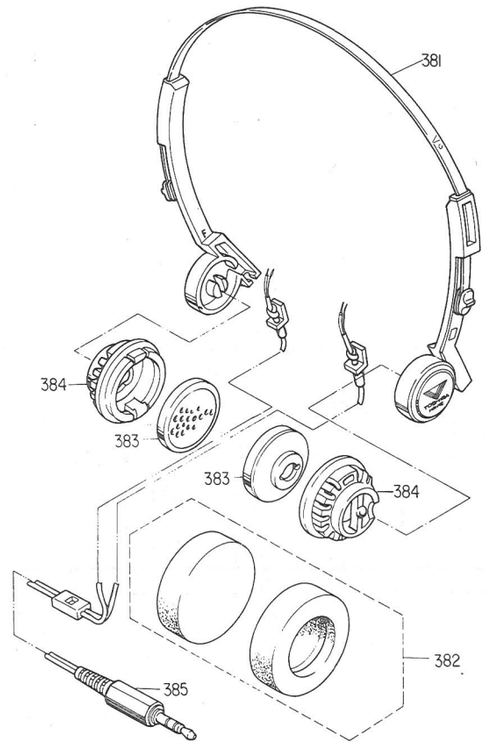
7. CABINET EXPLODED VIEW



NOTE: Excluded parts in the Parts List are not available as replacement parts.

Figure 17.

8–1. HEADPHONE EXPLODED VIEW



NOTE: Excluded parts in the Parts List are not available as replacement parts.

Figure 18.

■ **CARE FOR UNIT ASSEMBLY AND REPLACEMENT OF CORD WITH PLUG**

1. Insert tweezers into dent of unit case and detach the assembly from the case with tweezers lifting up.

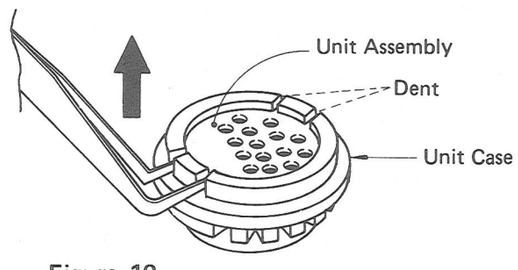


Figure 19.

2. Unsolder the back of assembly to remove the cord with plug.

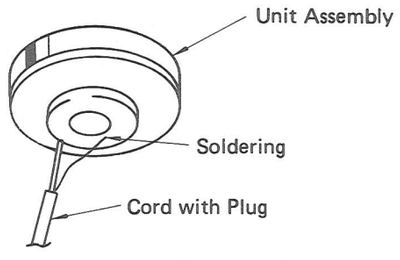


Figure 20.

8–2. HEADPHONE PARTS LIST

Symbol No.	Part No.	Description
381	22810066	Head Band Ass'y
382	22810067	Ear Pad Set
383	22810068	Unit Ass'y

Symbol No.	Part No.	Description
384	22810069	Unit Case
385	22810070	Cord Ass'y with Plug

8. PARTS LIST

Symbol No.	Part No.	Description
		CABINET PARTS
301	22825061	Cabinet Front Ass'y (w/deco. screw, dial cover, deco. knob, speaker net.)
302	22832582	Cabinet Back
303	22884161	Knob, Power
304	22884195	Knob, Tone
305	22884195	Knob, Balance
306	22884197	Knob, Volume
307	22884199	Knob, Tuning
308	22884163	Knob, Mono/Stereo
309	22884166	Knob, Band Select
310	22822204	Cover with Cushion, Battery
311	22714124	Mould Frame
312	22742268	Pulley, Small
313	22741370	Pointer
314	22742276	Dial Drum
315	22725232	Contact A, Battery
316	22725241	Contact B, Battery
317	22742165	Pulley with Shaft
318	22743301	Tuning Shaft
319	22703118	E Ring, Tuning Shaft
320	22758353	Back Sheet, Pointer
321	22837446	Dial Cover
322	25776391	Spring, Dial Drum
323	22844377	Speaker Net
324	22993045	Hand Strap
325	25779127	Metal Holder, Speaker
326	25779227	Antenna Contact, Rod Antenna
327	22707782	Screw, BID ϕ2.6 x 12mm,Chrome
328	22707303	Screw, BID ϕ2.6 x 10mm, Tapping
330	22707829	Screw, BID ϕ2.6 x 4mm
331	22707548	Screw, BID ϕ2.6 x 5mm, Chrome, Rod Antenna
332	25777082	Spring, Battery
333	22743274	Stopper, Hand Strap
		TRANSISTORS, ICS & DIODES
Q001	B0325270	I.C., TA7335P
Q101	B0355421	I.C., TA7614AP-W
Q102	A6317460	Transistor, 2SC1815 NEW-GR
Q103	A6041020	Transistor, 2SK61-O
Q201	B0325350	I.C., TA7343P
Q401, 402	B0325200	I.C., TA7331P
D101	A8603121	Diode, TLR226

Symbol No.	Part No.	Description
		COILS & TRANSFORMERS
L001	22294007	Coil, RF, FM
L002	22294019	Coil, Oscillator, FM
L003	22292141	Coil, Antenna, Loading FM
L004	22290017	Coil, Jack-Antenna, Choke FM
L101	22242881	Coil, Antenna, AM
L102	22245395	Coil, Oscillator, AM
L103	22230106	Coil, Choke, 470uH
L201	22232219	Coil, Choke, 8.8mH
T101	22265823	IF Transformer, FM
T102	22267410	IF Transformer, FM
T103	22264868	IF Transformer, AM
T104	22264819	IF Transformer, AM
		ELECTRICAL PARTS
S1	22195927	Switch, Slide, Band Select
S2	22195752	Switch, Slide, ST-MONO.
S3, J1	22163862	Jack w/Switch, ϕ3.5, Stereo
S4	22195929	Switch, Power
J2	22163898	Jack, Ext. Power-DC
Z001	22153197	Filter, FM-RF PFWB5
Z101, 102	22153058	Filter, Ceramic, SFE10.7MS2
Z103	22153070	Filter, Ceramic, SFU455B
W1	22152380	Speaker, SP-06S4T
A001	22124493	Rod Antenna
		CAPACITORS
		D = ±0.5pF, J = ±5%, K = ±10%, M = ±20%, Z = –20+80%
		Work voltages of capacitor are DC 50V unless otherwise noted.
		Abbreviations: CD = Ceramic Disk, EL = Electrolytic, MY = Mylar, BL = Barrier Layer,
C101 ~ 104, 003 ~ 006	22308184	Variable
C001	22362331	CD, 330pF, K
C002	22361150	CD, 15pF, J
C007	22360133	CD, 18pF, CH, J
C008	22360135	CD, 27pF, CH, J
C009	22362330	CD, 33pF, K
C010	22360606	BL, 0.022mfd, M, 25V
C011	22360347	BL, 0.1mfd, Z, 12V
C012	22362101	CD, 100pF, K
C013	22488100	EL, 10mfd, 50V
C014	22360604	BL, 0.01mfd, M, 25V
C015	22343391	CD, 390pF, M
C106	22361609	CD, 6pF, D

Symbol No.	Part No.	Description
C109, 110	22360606	BL, 0.022mfd, M, 25V
C111	22360604	BL, 0.01mfd, M, 25V
C112	22360606	BL, 0.022mfd, M, 25V
C113	22360608	BL, 0.047mfd, M, 25V
C114	22343391	CD, 390pF, M
C115	22362101	CD, 100pF, K
C116	22360606	BL, 0.022mfd, M, 25V
C117	22360606	BL, 0.022mfd, M, 25V
C118	22360604	BL, 0.01mfd, M, 25V
C119, 120	22440405	EL, 220mfd, 6.3V
C121	22440276	EL, 10mfd, 16V
C122	22483470	EL, 47mfd, 10V
C123	22440274	EL, 3.3mfd, 50V
C125	22360608	BL, 0.047mfd, M, 25V
C201	22360364	CD, 220pF, K
C202	22362101	CD, 100pF, K
C203	22371102	MY, 1000pF, J
C204, 205	22360328	BL, 0.015mfd, M
C206	22440271	EL, 0.47mfd, 50V
C207	22440274	EL, 3.3mfd, 50V
C208	22440272	EL, 1mfd, 50V
C209	22440406	EL, 220mfd, 6.3V
C210	22440272	EL, 1mfd, 50V
C401, 402	22360607	BL, 0.033mfd, M, 25V
C403, 404	22349102	CD, 1000pF, K
C405, 406	22440320	EL, 0.22mfd, 50V
C407, 408	22440321	EL, 0.1mfd, 50V
C409	22440277	EL .22mfd, 6.3V
C410, 411	22440276	EL, 10mfd, 16V
C412, 413	22440320	EL, 0.22mfd, 50V
C414, 415	22440277	EL, 22mfd, 6.3V
C416, 417	22440406	EL, 220mfd, 6.3V
C420	22440466	EL, 1000mfd, 10V
C421, 422	22343681	CD, 680pF, K

RESISTORS

Resistors are carbon film 1/8W, ±5%, unless otherwise noted.
K = 1000, M = 1000000

R001, 002	22540538	220K ohm
R003	22540189	820 ohm
R101	22540500	150 ohm
R102	22550175	330 ohm
R103	22540188	680 ohm
R104	22540502	220 ohm
R105	22540482	4.7 ohm for IC TA7614AP-W
R105	22540485	8.2 ohm, IC TA7614AP-Y
R106	22540498	100 ohm
R107, 108	22540513	1.8K ohm
R109	22550192	10K ohm
R110	22540495	56 ohm
R112	22540521	8.2K ohm
R113	22540522	10K ohm
R114	22540510	1K ohm
R115	22540542	470K ohm
R116, 117	22540506	470 ohm
R119	22540494	6.8 ohm
R201	22550181	1K ohm
R202	22540202	10K ohm
R203	22540538	220K ohm
R204, 205	22540516	3.3K ohm
R207	22658513	Semi-fixed Variable, 5K-B
R209	22540492	33 ohm
R401	22651571	Variable, 50K-D, Tone
R402	22651570	Variable, 50K-D, Volume
R403	22625433	Variable, 50K-B, Balance
R404, 405	22540519	5.6K ohm
R406, 407	22540514	2.2K ohm
R408	22550197	27K ohm
R409	22540212	68K ohm
R410	22550202	68K ohm
R411	22540534	100K ohm
R412	22550204	100K ohm
R413	22540534	100K ohm
R414	22550204	100K ohm
R415	22540504	330 ohm
R416	22550175	330 ohm
R417, 418	22555829	8.2 ohm, ¼W

ACCESSORIES

AC01	22903313	Owner's Manual, 2-languages

TOSHIBA CORPORATION
2-1, GINZA 5-CHOME, CHUO-KU, TOKYO 104, JAPAN

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